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PRELIMINARY INVESTIGATION INTO THE SYRPHIDAE FAUNA OF THE TISZA-VALLEY

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Abstract

The author has collected, among other Diptera, hover flies in the flood plain of the Tisza, since 1959. His present work is the first short summary of the Syrphidae fauna in the Tisza-valley. In the course of elaborating about 2300 specimens, he demonstrated 99 species from this area. From among these, new species are in Hungary: *Triglyphus primus* LOEW, *Neoascia geniculata* MEIGEN, *Paragus haemorrhous* MEIG., *Pyrophaena granditarsa* FÖRSTER, *Eristalis abusivus* COLL., and *Eumerus sogdianus* STACK. From among the rarer species, there are also worth mentioning: *Heringia heringi* ZETT., *Melanostoma dubium* ZETT, *Plecocera latifrons* LOEW.

Introduction

Present work is the first, brief summary of the Syrphidae fauna in the Tisza-valley. Another more detailed monograph, analysing exhaustively the spreading relations of species, the conditions of their occurrence, etc., will be written later when we have more data about the spreading of hover flies in Hungary.

In the framework of the Tisza-research programme, I have collected hover flies in the Tisza-valley since 1959. In the course of my activity, covering the whole Hungarian stretch of the flood-plain of the river, I have collected a round 2300 individuals. As a result of elaborating the material, I have succeeded in demonstrating the occurrence of 99 species. This may have been about one-third of the species, living supposedly in Hungary. This number (taking into consideration the collecting work for almost twenty years) connot be considered as high and it seems probable that later on, it will not rise considerably. Hungary is still only at the beginning of elaborating her hover flies. Thus, it is not possible, to compare the fauna of the Tisza-valley with our other regions. On the basis of analogy of other insect groups it is, however, obvious that in our mountainous districts the Syrphidae fauna is also much richer in species. In the Tisza-valley, the missing of *Cheilosia* species is especially striking and this is probably characteristic of the whole Great Hungarian Plain. At the same time the fauna is, of course, richer in species with larvae developing in water.

In the Tisza-valley, a considerable Diptera material was earlier only collected by ZILAHY-S. In his paper summarizing his results (ZILAHY-S. 1961) the following 13 Syrphidae species may be found: *Neoascia podagrica* FABR., *Melanostoma mellinum* L, *Sphaeroporia menthastri* L., *Sphaeroporia scripta* L., *Episyrphus balteatus* DEG.,

Syrphus vitripennis MEIG., *Volucella zonaria* PODA., *Eristalis arbustorum* L., *Eristalis tenax* L., *Lathyrophthalmus seneus* SCOP., *Eristalis sepulchralis* L. *Helophilus trivittatus* FABR., *Ceroides conopoides* L., From among the species enumerated the occurrence of *Neoascia podagrica* FABR. is uncertain, taking into consideration the difficulties of determining the *Neoascia* species, existing even at present.

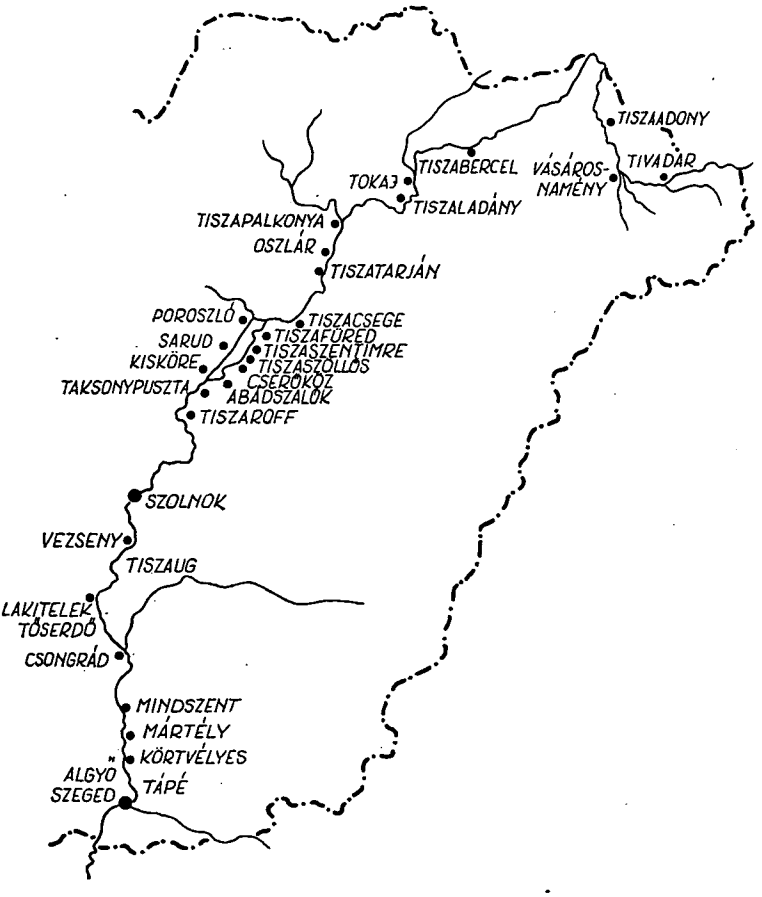

Fig. 1. Syrphidae collecting stations in the Tisza-valley.

Dominance relations

In home relation, we have still only few exact data concerning the occurrence of the various Syrphidae species. It seems, therefore, to be justified to make known some results of the quantitative elaboration of the material collected in the Tisza-valley.

Among the 99 species demonstrated so far, there are 23, the mass participation of which overpasses 1 percent. These come together to 70 percent of the total material. First of these is *Eristaiis arbustorum* L. (11.73 percent) wich is probably nationally too one of the most common species. The second place is taken by *Sphaerophoria*

scripta L. (8.73 percent) which can similarly be collected everywhere in large numbers. The third one is *Syritta pipiens* L. (5.69 percent), the fourth one *Melanostoma mellinum* L. (4.52 percent) and the fifth one is *Episyrphus balteatus* DEG. (4.21 percent). These are the nationally common species, although from the latter species I have expected — on the basis of my experiences so far — a higher ratio, of participation.

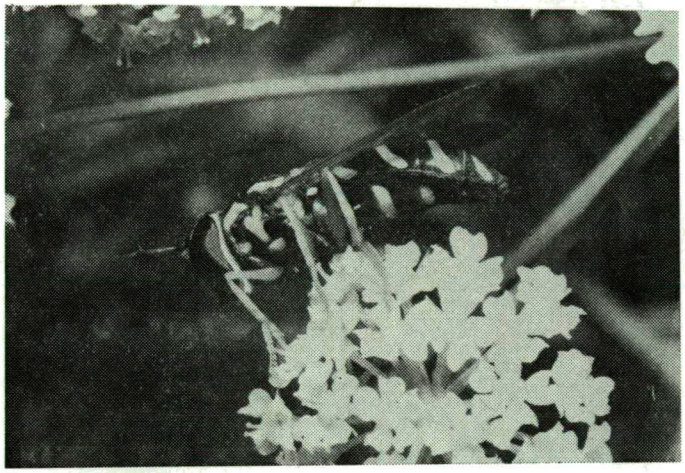

Fig. 2. Detail of flood plain at Kisköre.

Further species, exceeding a participation of 1 percent, are:

Syrphus vitripennis MEIG. (2.91 percent),
Tropidia scita HARR. (2.82 percent),
Helophilus trivittatus FABR. (2.69 percent),
Eristalis tenax L. (2.6 percent),
Pipizella virens FABR. (2.43 percent),
Eristalis aeneus SCOP. (2.26 percent),
Eristalis sepulchralis L. (2.13 percent),
Xanthogramma ornatum MEIG. (2.04 percent),
Sphaeroporia menthastri L. (1.86 percent),
Helophilus pendulus L. (1.73 percent),
Eristalis nemorum L. (1.65 percent),
Myiatropa florea L. (1.6 percent),
Syrphus ribesii L. (1.56 percent),
Parphelophilus versicolor FABR. (1.39 percent),
Metasyrphus corollae FABR. (1.3 percent),
Chrysotoxum festivum L. 1.21 percent),
Liogaster splendida MEIG. (1.13 percent),
Platychirus clypeatus MEIG. (1.13 percent).

The enumerated species are frequent in national relation, as well, with the exception of *Tropidia scita* HARR. The approximately 3 percent participation ratio of this species is strikingly high. It is mentioned by THALHAMMER in the Fauna Regni Hungariae (1899) only from Kalocsa and it does not take part in any hand-written

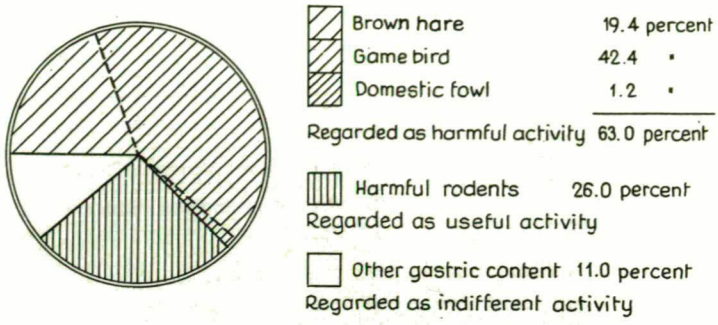

Fig. 3. Chrysotoxum festivum.

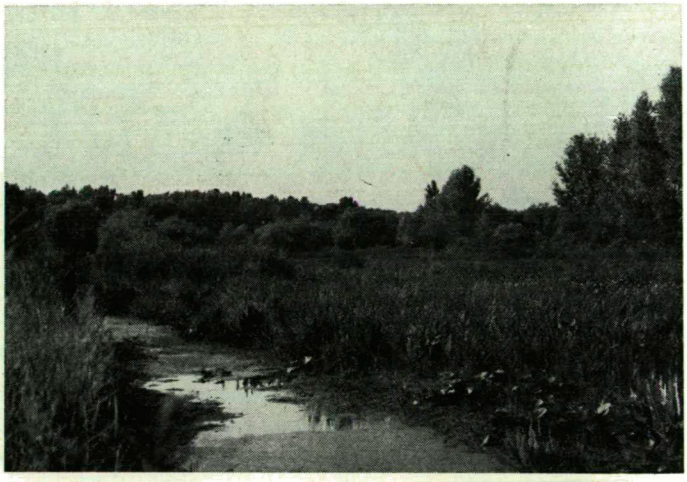

Fig. 4. Lakitelek: Ditail at Tőserdő.

fauna-catalogue (1929). It is worth mentioning that it was found in the Tisza-valley, too, only from Oszlár and the area of the nearby Tiszatarján where the presumable habitat of the larvae of the species is the Tisza Dead-Arm at Oszlár and Tiszatarján. Apart from these, it is only known in this country from Balatonfüred, the shore of Balaton in larger individual numbers.

Rare and for Hungary new species are:

Heringia heringi ZETTERSTEDT 1843.

It is a rare species. For its home occurrence I have only found a single literary datum from Pécs (THALHAMMER 1929).

Triglyphus primus LOEW 1840

It is a sporadically occurring species, generally collected one by one. Its publication from the Tisza-valley is the first literary datum in Hungary.

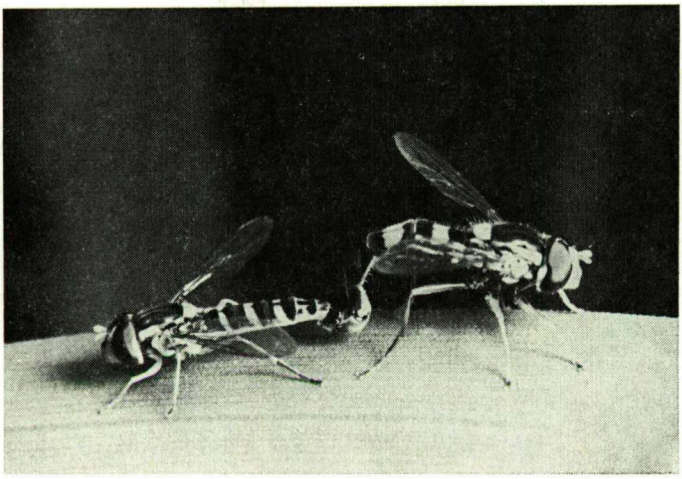

Fig. 5. Sphaerophoria scripta (in copula).

Neoascia geniculata MEIGEN 1822

It is a rare species and a new datum for the home fauna. There was found but a single individual from the Tisza-valley in Oszlár, from the vicinity of the Tisza Dead-Arm.

Paragus haemorrhous MEIGEN 1822

The species is not rare. But in the earlier literature it has a part as a synonym of *Paragus tibialis* FALLEN. It was frequently found in the Tisza-valley. Nonetheless, this is a new datum to the home Syrphidae fauna.

Plecocera latifrons LOEW 1856

There are few literary data concerning its home occurrence. In the Tisza-valley it was found from Tiszafüred.

Melanostoma dubium ZETTERSTEDT 1838

It is a rare species. For its home occurrence I have only found a single datum from Pécs (THALHAMMER 1929). In the Tisza-valley it is rare, as well.

Pyrophaena granditarsa FÖRSTER 1781

It is a rarely found species. I have found no literary datum concerning it. Its demonstration from the Tisza-valley is, therefore, a new datum to the Syrphidae fauna of Hungary.

Eristalis abusivus COLLIN 1931

Externally it is very near to *Eristalis arbustorum* which takes the first place in respect of frequency. It has, therefore, no part in the older publications of literary data. Its demonstration from the Tisza-valley is thus a new datum concerning the

Syrphidae fauna in Hungary. It seems, at any rate, not to be rare in the Tisza-valley (Abádszalók, Cserőköz, Mártély: Körtvélyes-Island, Oszlár, Tiszatarján). In the Tisza-valley, its participation percentage in the collected material is near to 1 percent (0.91 p.c.). Apart from the data of the Tisza-valley, we know concerning its distribu-

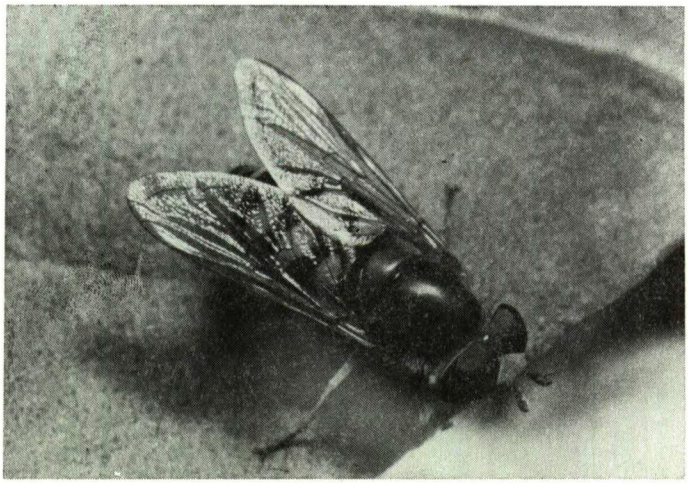

Fig. 6. *Metasyrphus corollae.*

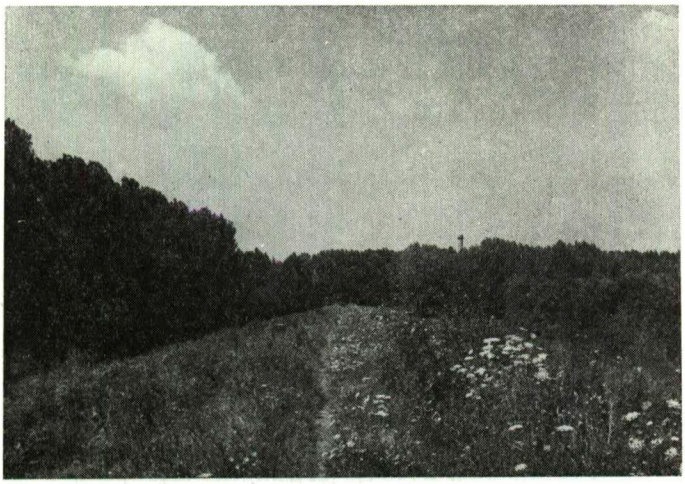

Fig. 7. Detail of the Tisza-dam on the confines of Szolnok.

tion in Hungary for the time being hardly anything. By looking over the Eristalis arbustorum material of the Bakony Museum of Natural Sciences, we have only got but a single female Eristalis abusivum individual. From this, it can be concluded, for the moment, that in a flat region, it may occur considerably more frequently.

Eumerus sogdianus STACKELBERG

Its demonstration from the Tisza-valley is a new datum to the Syrphidae fauna of our country. Its localities are: Cserőköz, Mártély: Körtvélyes-Island, Tiszafüred, Tiszatarján, Tiszaug (leg. Soós, Á), Tokaj. I have collected it, apart from the Tisza-valley, in Szalkszentmárton.

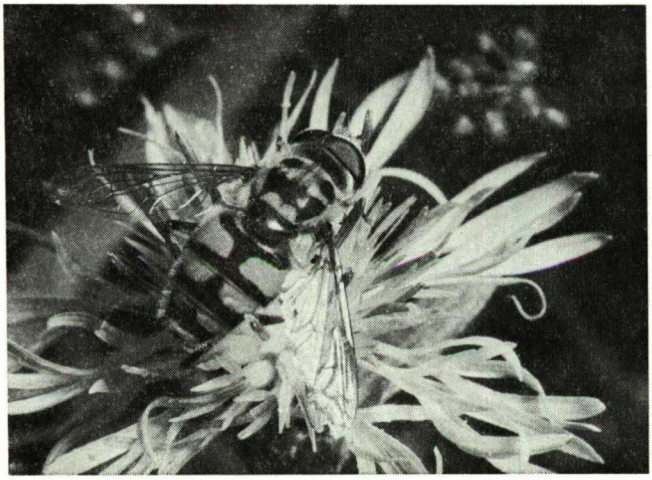

Fig. 8. *Myiatropa florea*

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A Tisza-völgy Syrphidae faunájának előzetes vizsgálata

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Kivonat

A szerző 1959-től gyűjti a Tisza hullámterén — egyéb Dipterák között — a zengőlegyeket. Jelen munkája a Tisza-völgy Syrphidae faunájának első rövid összefoglalása. A mintegy 2300 példány feldolgozása során 99 fajt mutat ki a területről. Közülük Magyarországra új a *Triglyphus primus* LOEW, a *Neoascia geniculata* MEIGEN, a *Paragus haemorrhous* MEIG., a *Pyrophaena granditarsa* FÖRSTER, az *Eristalis abusivus* COLL., és az *Eumerus sogdianus* STACK. A ritkább fajok közül említést érdemel még a *Heringia heringi* ZETT., a *Melanostoma dubium* ZETT., a *Plecocera latifrons* LOEW

Table 1. *Collection data of the Syrphidae species collected from the Tisza-valley*

Serial number	Species	Abádszalók	Algyő	Cserőköz	Csongrád	Kisköre	Lakitelek	Mártély	Mindszent	Oszlár	Poroszló	Sarud	Szeged	Szolnok	Taskonypuszta
1.	*Pipiza fasciata Meig.*														
2.	*Pipiza festiva Meig.*										×				
3.	*Pipiza noctiluca L.*														
4.	*Pipiza quadrimaculata Panz.*														
5.	*Pipizella maculipennis Meig.*	×								×					
6.	*Pipizella virens Fabr.*				×					×			×	×	
7.	*Heringia heringi Zett.*														
8.	*Orthoneura intermedia Lundb.*									×				×	
9.	*Liogaster splendida Meig.*	×								×			×		
10.	*Triglyphus primus Loew.*														
11.	*Cheilosia albipila Meig.*									×					
12.	*Cheilosia carbonaria Egg.*			×											
13.	*Neoascia dispar Meig.*	×								×					
14.	*Neoascia geniculata Meig.*									×					
15.	*Neoascia interrupta Meig.*			×						×					
16.	*Neoascia podagrica Fabr.*												×		
17.	*Paragus bicolor Fabr.*														
18.	*Paragus haemorrhous Meig.*									×				×	
19.	*Paragus quadrifasciatus Meig.*														
20.	*Baccha elongata Fabr.*														×
21.	*Baccha obscuripennis Meig.*												×		×
22.	*Pelecocera latifrons Loew*														
23.	*Melanostoma dubium Zett.*									×					
24.	*Melanostoma mellinum L.*	×		×	×			×		×		×	×	×	×
25.	*Melanostoma scalare Fabr.*	×		×										×	
26.	*Xanthandrus comptus Harr.*			×								×			
27.	*Platychirus albimanus Fabr.*									×					
28.	*Platychirus angustatus Zett.*									×			×		
29.	*Platychirus clypeatus Meig.*	×						×		×					×
30.	*Platychirus fulviventris Macq.*							×		×					
31.	*Platychirus peltatus Meig.*			×						×					×
32.	*Platychirus scutatus Meig.*									×			×		
33.	*Xanthogramma citrofasciatum Deg.*									×					
34.	*Xanthogramma ornatum Meig.*	×								×				×	
35.	*Pyrophaena granditarsa Förster*														
36.	*Pyrophaena rosarum Fabr.*														
37.	*Episyrphus auricollis Meig.*												×		
38.	*Episyrphus balteatus Deg.*	×		×	×	×		×		×			×	×	×
39.	*Chrysotoxum bicinctum L.*														
40.	*Chrysotoxum cautum Harr.*									×					
41.	*Chrysotoxum festivum L.*									×					
42.	*Chrysotoxum intermedium Meig.*														
43.	*Chrysotoxum octomaculatum Curt.*														
44.	*Chrysotoxum vernale Loew*									×					
45.	*Dasysyrphus albostriatus Fall.*				×										
46.	*Dasysyrphus venustus Meig.*									×					
47.	*Scaeva pyrastri L.*	×			×		×								
48.	*Scaeva selenetucus Meig.*									×					
49.	*Metasyrphus corollae Fabr.*	×		×	×			×		×				×	
50.	*Posthosyrphus luniger Meig.*					×				×					
51.	*Syrphus ribesii L.*	×		×		×	×		×	×					

Tápé
Tiszaadony
Tiszabercel
Tiszacsege
Tiszafüred
Tiszaladány
Tiszapalkonya
Tiszaroff
Tiszaszöllős
Tiszatarján
Tiszaug
Tivadar
Tokaj
Tőserdő
Vásárosnamény
Vezseny
Time of collection, broken down to months
IV.
V.
VI.
VII.
VIII.
IX.
X.

Serial number	Species	Abádszalók	Algyő	Cserőköz	Csongrád	Kiskőre	Lakitelek	Mártély	Mindszent	Oszlár	Poroszló	Sarud	Szeged	Szolnok	Taskonypuszta
52.	*Syrphus torvus O.—S.*							×							
53.	*Syrphus vitripennis Meig.*	×		×	×		×		×	×			×	×	×
54.	*Epistrophe bifasciata Fabr.*									×					
55.	*Epistrophe grossularie Meig.*													×	
56.	*Epistrophe nitidicollis Meig.*														
57.	*Melangyna compositarum Verr.*									×					
58.	*Sphaerophoria menthastri L.*	×		×				×		×			×	×	×
59.	*Sphaerophoria rüppeli Wied.*	×		×						×					
60.	*Sphaerophoria scripta L.*	×		×	×	×	×	×	×	×			×	×	×
61.	*Microdon devius L.*									×					
62.	*Microdon mutabilis L.*									×					
63.	*Volucella bombylans L.*														
64.	*Volucella inanis L.*														
65.	*Volucella pellucens L.*														
66.	*Volucella zonaria Poda*												×		
67.	*Eristalis sepulchlaris L.*			×			×	×		×				×	
68.	*Eristalis aeneus Scop.*				×			×	×				×	×	×
69.	*Eristalis abusivus Coll.*	×		×				×		×					
70.	*Eristalis arbustorum L.*	×	×	×	×	×	×	×	×	×	×	×	×	×	
71.	*Eristalis intricaria L.*	×								×					
72.	*Eristalis nemorum L.*			×						×			×		
73.	*Eristalis pertinax Scop.*			×						×					
74.	*Eristalis pratorum Meig.*									×					
75.	*Eristalis tenax L.*	×	×	×	×	×	×	×	×	×	×	×	×	×	×
76.	*Myiatropa florea L.*						×		×	×			×	×	
77.	*Helophilus pendulus L.*			×						×			×	×	
78.	*Helophilus trivittatus Fabr.*	×			×		×	×		×	×		×	×	×
79.	*Lampetia flava Sack.*									×					
80.	*Lampetia spinipes Fabr.*														
81.	*Cerioides conopoides L.*												×		
82.	*Parhelophilus futetorum Fabr.*									×					
83.	*Parhelophilus versicolor Fabr.*									×					
84.	*Eurinomyia lineata Fabr.*									×					
85.	*Eurinomyia lunulata Meig.*									×					
86.	*Eurinomyia transfuga L.*									×					
87.	*Liops vittata Meig.*			×											
88.	*Mesembrius peregrinus Loew*							×		×				×	
89.	*Eumerus sogdianus Stack.*			×				×							
90.	*Eumerus strigatus Fabr.*	×		×				×		×					
91.	*Eumerus tricolor Fabr.*									×					
92.	*Eumerus tuberculatus Rond.*														
93.	*Ferdinandea cuprea Scop.*									×					
94.	*Tropidia scita Harr.*									×					
95.	*Syritta pipiens L.*	×		×				×	×	×			×	×	×
96.	*Xylota nemorum*														
97.	*Xylota segnis L.*														
98.	*Xylota sylvarum L.*									×					
99.	*Xylota tarda Meig.*														

	Tápé	Tiszaadony	Tiszabercel	Tiszacsege	Tiszafüred	Tiszaladány	Tiszapalkonya	Tiszaroff	Tiszaszöllős	Tiszatarján	Tiszaug	Tivadar	Tokaj	Tőserdő	Vásárosnamény	Vezseny	Time of collection, broken down to months						
																	IV.	V.	VI.	VII.	VIII.	IX.	X.
					×																×		
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Prethodna ispitivanja faune Syrphidae doline Tise

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Abstract

Autor, pored drugih Diptera, na plavnom području reke Tise od 1959. god. prikuplja i Syrphidae. Ovaj rad predstavlja prvi kratak rezime faune Syrphidae doline Tise. Od 2300 obradjenih primeraka utvrdjeno je prisustvo 99 vrsta na ovom području. Za faunu Madjarske su nove vrste: *Triglyphus primus* LOEW, *Neoascia geniculata* MEIGEN, *Paragus haemorrhous* MEIG., *Pyrophaena granditarsa* FÖRSTER, *Eristalis abusivus* COLL. i *Eumerus sogdianus* STACK. Od redjih vrsta zaslužuju pažnju još: Heringia heringi ZETT., Melanostoma dubiumZETT., Plecocera latifrons LOEW.

Предварительное исследование фауны Syrphidae в долоие Тисы

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Рэзюме

Начиная с 1959 года, павтор собирает в ойме Тисы жужжащих мух (вместе с другими Diptera). Настоящая работа — первое краткое резюме относительно фауны Syrphidae в долине Тисы. Из числа 2300 собранных экземпляров автор выделяет на этой территории 99 разновидностей Из них новыми для Венгрии являются *Triglyphus primus* LOEW, *Neoascia geniculata* MEIGEN, *Paragus haemorrhous* MEIG,, *Pyrophaena granditarsa* FÖRSTER, *Eristalis abusivus* GOLL,, *Eumerus sogdianus* STACK.
Из числа более редких видов следует отметить *Heringia heringi* ZETT,, *Melanostoma dubium* ZETT., *Plecocera latifrons* LOEW.